



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22311-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,562	06/11/2002	Robert Meredith Appleyard	WATE-001	8829

7590 10/24/2003
David A Cherry
Woodcock Washburn
46th Floor
One Liberty Place
Philadelphia, PA 19103

EXAMINER

LUU, THANH X

ART UNIT PAPER NUMBER

2878

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,562

Applicant(s)

APPLEYARD, ROBERT
MEREDITH

Examiner

Thanh X. Luu

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 012003 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the control means; only the laser emitting means is adjustable must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

3. Claims 11, 14 and 17 are objected to because of the following informalities:
In claim 11, "the correcting means" lacks proper antecedent basis.
In claim 14, "the laser beam" lacks proper antecedent basis.
In claim 17, "the laser beam" and "the planar beam" lacks proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 20, it is unclear in its given context how both the laser emitting means and the light receiving means are adjustable (see claim 19) and then only the laser emitting means is adjustable.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-11 and 19-21, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Appleyard et al. (WO 9725568) in view of Tourres (U.S. Patent 4,170,417).

Regarding claims 1-5, 7, 8 and 19-21, Appleyard et al. disclose (see Figure 2) a safety system for an industrial press having a moveable section, comprising: a laser emitting means (22) for emitting a laser beam; a light receiving means (24) for receiving the laser beam and for detecting when an object intersects the laser beam; and a control means (25) for stopping or preventing movement of the moveable section of the press when the receiving means detects that the laser beam has intersected the object. Appleyard et al. further discloses a plurality of laser beams forming a plane. Appleyard et al. also disclose (see Figure 1) the press has a blade (18) and an anvil moveable

relative to each other, the safety system being located such that the plane of the laser beams is emitted immediately adjacent the leading edge of the blade. In addition, Appleyard et al. disclose (see Figure 2) the plane of the laser beams is at least substantially horizontal and is located between the blade and the anvil. Appleyard et al. also disclose (see page 13, last paragraph) disposing the plane of laser beams vertically and (see Figure 2) the laser emitting means and light receiving means is mounted on or immediately adjacent the blade, which is moveable. Appleyard et al. further disclose (see Figure 2) mounting the light emitting means and light receiving means on adjustable supports (21), the supports being adjusted or fixed depending on the adjustments. Appleyard et al. do not specifically disclose a planar laser beam having a generally constant lateral width. Tourres teaches (see Figure 1) a laser emitting means for emitting a continuous planar laser beam having a constant lateral width for object detection. Thus, Tourres recognizes that laser emitting sources are consolidated in such a configuration. Tourres also teaches (see Figure 1) the laser emitting means includes a laser emitter (1) for emitting a laser beam, and a lens assembly (at 2 and 3) for varying the configuration of the laser beam into the planar laser beam of planar shape and constant lateral width. Tourres further teaches (see Figure 1) a cylindrical prism (2) and a converging lens (3) as claimed. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the laser emitting means of Tourres in the apparatus of Appleyard et al. to reduce the number of laser emitting sources and save cost.

Regarding claim 6, Appleyard et al. in view of Tourres disclose the claimed invention as set forth above. Appleyard et al. and Tourres do not specifically disclose a plurality of planar laser beams. However, it is a matter of routine skill in the art to add additional light sources and receivers. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide additional planes of light in the apparatus of Appleyard et al. in view of Tourres to provide further safety in the industrial press.

Regarding claims 9-11, Appleyard et al. in view of Tourres disclose the claimed invention as set forth above. Appleyard et al. and Tourres do not specifically disclose a correcting lens as claimed. However, collimating optics are well known in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide correcting lenses or collimating optics in the apparatus of Appleyard et al. in view of Tourres to provide a coherent defined planar beam for improved detection.

8. Claims 12-18, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Appleyard et al. in view of Tourres, and further in view of Zettler et al. (U.S. Patent 4,249,074).

Regarding claims 12, 13, 17 and 18, Appleyard et al. in view of Tourres disclose the claimed invention as set forth above. Appleyard et al. and Tourres do not specifically disclose a plurality of receivers. Zettler et al. teach (see Figure 1) in a safety system, providing a receiver body having a plurality of receivers (426) for receiving light as claimed. Each of the receivers providing a separate signal. It would have been

obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of receivers in the apparatus of Appleyard et al. in view of Tourres and Zettler et al. to detect a location of the object and provide improved safety response. Appleyard et al., Tourres and Zettler et al. do not specifically disclose a lens in front of the receivers. However, it is well known in the art to provide a lens to concentrate light and improve detection. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a lens in front of the receivers in the apparatus of Appleyard et al. in view of Tourres and Zettler et al. concentrate light and improve detection.

Regarding claim 16, Appleyard et al. in view of Tourres and Zettler et al. disclose the claimed invention as set forth above. Appleyard et al., Tourres and Zettler et al. do not specifically disclose a plurality of receivers. However, it is well known in the art to provide a beam wider than required to compensate for misalignments. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the planar laser beam wider than the receiver array in the apparatus of Appleyard et al. in view of Tourres and Zettler et al. compensate for misalignments and improve detection.

Regarding claims 14 and 15, Appleyard et al. in view of Tourres and Zettler et al. disclose the claimed invention as set forth above. Appleyard et al., Tourres and Zettler et al. do not specifically disclose a cylinder lens or the receiver body having separate parallel dividing walls. However, cylindrical lenses and dividing walls are well known in the art. It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to provide a cylinder lens and dividing walls in the apparatus of Appleyard et al. in view of Tourres and Zettler et al. reduce interference between light beams and improve detection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
October 1, 2003


Thanh X. Luu
Patent Examiner